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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,752	07/23/2001	James A. McCall	42390P11992	4997
8791	7590	10/01/2002		
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD, SEVENTH FLOOR LOS ANGELES, CA 90025		EXAMINER		
		DINH, TUAN T		
		ART UNIT		PAPER NUMBER
		2827		

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/911,752	MCCALL ET AL.
	Examiner	Art Unit
	Tuan T Dinh	2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 23 July 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-23 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

4) Interview Summary (PTO-413) Paper No(s). _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, line 7, and claims 11, 16, line 6, applicant should clarify the specific location of the "a first section." In lines 11-12, applicant should clarify whether the impedances are of both the second and third sections added together or the impedance of each one separately. In line 12, applicant should clarify what is intended by the "impedances" of the first section.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art figure 1a of Fan et al. (U. S. Patent 6,381,164) in view of Fan et al. figure 2a.

As best understood to claims 1-23, Prior art figure 1a of Fan et al. disclose a system comprising:

- first and second modules (24, 38), each having first and second groups of chips, each first and second groups of chips including buffers (28);
- a circuit board (12, figure 1a) including first and second module connectors (22, 36) to receive the first and second modules respectively; and
- a path (20, 26, 32, 34, 40 and 46).

Prior art figure 1a of Fan et al. disclose the instant claimed invention except for: the path splitting the circuit board into second and third sections wherein the first buffer provides signals (the signal can be used as an address/command signal) received from the second section to the first group of chips and the second buffer provides signals received form the third section to the second group of chips and wherein the impedances of the second and third sections are at least 50% greater than that of the first section (or the impedance of the motherboard).

Fan et al., figure 2a, discloses a circuit board (12) being divided by a path [20, 56, 62, 68, 70, 72 and 74] splitting the circuit board into parallel second and third sections wherein the first buffer (28) provides signals received from the second section (64, 66) to the first group of chips (28) and the second buffer (28) provides signals received form the third section (52, 54) to the second group of chips and wherein the impedances of the second and third sections are at least 50% greater than that of the first section (or the impedance of the motherboard).

It would have been obvious to one having ordinary skill in the art at the time invention was made to use the path design of Fan et al., figure 2a, in the prior art figure 1a of Fan et al., for the purpose of increasing system density and performance.

The prior art figure 1a of Fan et al., as modified, discloses the claimed invention except for the particular impedance ration between the board and modules. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the impedances, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Canning, Schomers, Nickolls et al., Halbert et al., Iikbahar, Wu, Deneroff et al., Leddige et al., Horine et al., and Fan et al. disclosed related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 703-306-5856. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on 703-305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-1341 for regular communications and 703-305-1341 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TD
September 29, 2002

Albert W. Paladini 9-30-02
ALBERT W. PALADINI
PRIMARY EXAMINER